

**RE: upper and lower Hyalite sampling , FS2012****Lisa Kusnierz** to: Makarowski, Kathryn

05/01/2012 08:10 AM

Thanks Katie. Ok, I'll tell them to just sample 3 on lower Hyalite instead of the 4 I had estimated for the SOW. The SOW actually does include macroinvertebrate sampling - it specifies chl/AFDW, periphyton, and macroinvertebrates during one sampling event. If is supposed to be collected at all sites, which should result in 3 of each on lower Hyalite and 4 of each on upper Hyalite.

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"Makarowski, Kathryn"**Sampling Needs, FS 2012 Waterbody****05/01/2012 08:00:56 AM**

From: "Makarowski, Kathryn" <kmkarowski@mt.gov>
To: Lisa Kusnierz/MO/R8/USEPA/US@EPA
Date: 05/01/2012 08:00 AM
Subject: RE: upper and lower Hyalite sampling, FS2012

		Sampling Needs, FS 2012		
Waterbody	AUID	nutrients	chla/AFDW	macro s
HYALITE CREEK, headwaters to the top of Hyalite Reservoir, T4S R6E S23	MT41H003_129	12	3	1
HYALITE CREEK, Bozeman water supply intake to the mouth (East Gallatin River)	MT41H003_132	0	3	0

Hi Lisa –

For Lower Hyalite (MT41H003_132), we already have 12 TN samples and 13 TP and NO₂+3 samples (only need 12). We have 2 chlorophyll samples but we **do not have** any ash-free dry weight chlorophyll a samples and we **need three** of these to reach our minimum sample size. Thus, I proposed visiting 3 sites and collecting chlorophyll at each one – I am not doing any lower Hyalite monitoring so ATKINS will be making these site visits. Typically, where we collect chlorophyll we also collect nutrient samples so we would have more than enough nutrient samples. The three sites I included (M05HYLTC03, HY01 and HY02) are pre-existing sites from which we already have nutrient data. If you want to add a fourth you can, although it's not necessary to achieve minimum sample sizes.

For Upper Hyalite (MT41H003_129), we have 1 TN sample and 2 TP and NO₂+3 samples. So, we ultimately **need 12 more** nutrient samples to reach our minimum of 13. We have 1 chlorophyll sample but **do not have** any ash-free dry weight chlorophyll a samples and we **need three** of these to reach our minimum sample size. We also need one additional macroinvertebrate sample. Thus, I proposed visiting four sites each three times to give us the 12 nutrient samples we need – I will make one of these visits and ATKINS will make the other two. ATKINS needs to collect at least 3 chlorophyll samples. I will

collect the remaining macroinvertebrate sample since I don't believe you included bugs in your Task Order for Hyalite.

As I mentioned previously, I already spoke with Jeff Dunn and we worked out that I'd visit Upper Hyalite sites in early July and he will do the August and September sampling on both Upper and Lower Hyalite.

Hopefully this helps to clarify. Please give a call if you have any other questions!

Take care,
Katie Makarowski
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From: Lisa Kusnierz [mailto:Kusnierz.Lisa@epamail.epa.gov]
Sent: Monday, April 30, 2012 3:57 PM
To: Makarowski, Kathryn
Subject: Re: upper and lower Hyalite sampling, FS2012

Hi Katie,

I'm getting ready to send your sampling site suggestions to Atkins and noticed that I had planned for 4 sites on both segments in Hyalite. Do you know why you only put 3 stations on lower Hyalite since it's somewhere we don't currently have any samples?

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▼ "Makarowski, Kathryn" ---04/19/2012 02:30:47 PM---Hey there Lisa, I recently got a copy of the final SAP that you put together for this summer's monit

From: "Makarowski, Kathryn" <kmarowski@mt.gov>
To: Lisa Kusnierz/MO/R8/USEPA/US@EPA
Cc: "Kron, Darrin" <dkron@mt.gov>, "Yashan, Dean" <DYashan@mt.gov>
Date: 04/19/2012 02:30 PM
Subject: upper and lower Hyalite sampling, FS2012

Hey there Lisa,

I recently got a copy of the final SAP that you put together for this summer's monitoring by Atkins. I didn't see the

Hyalite sampling plan and site locations in there. I was just coordinating sampling timeframes with Jeff Dunn which went really well. However, I got to wondering how or if you were planning to include Hyalite into this SAP or another. I'd like to be sure that Jeff is aware of the specific site locations and monitoring needs that I sent you some time ago for lower and upper Hyalite. Can you please clarify?

Thank you!

Katie Makarowski

Multi-Basin Monitoring & Assessment Coordinator

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kmkarowski@mt.gov[attachment "Hyalite FS2012 sampling plan.xlsx" deleted by Lisa Kusnierz/MO/R8/USEPA/US]